

Economic Modeling in Social Work Education

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Abstract: *Economic modeling provides academic administrators with a logical framework for analyzing costs associated with the processes involved in the delivery of social work education. The specific costs associated with activities such as teaching, research, and service may be determined for a school of social work as a whole or for specific responsibility centers (e.g., programs and services within the school). Economic modeling utilizes modern spreadsheet software that can be configured in relation to the idiosyncratic needs and budgeting strategies that exist in virtually all colleges and universities. As a versatile planning tool, it enables managers to identify specific "cost-drivers" that cause the occurrence of real costs in relation to designated programmatic initiatives. In addition, economic modeling provides academic planners and decision-makers a useful vehicle for considering the economic impact of various projected ("what if") scenarios.*

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In an era of escalating costs, diminishing resources, and increasing demands for accountability, academic administrators are faced with the apparent paradox of increasing productivity and performance, while reducing or maintaining costs. "Doing more with less" has become a virtual mantra for deans and directors. Financial resource management must be carried out in the most efficient and effective manner possible.

Although specific references to the term "economics of education" first appeared in the literature in 1960 (Leslie & Brinkman, 1988), journal articles that specifically address economic modeling or activity-based costing strategies in higher education have only recently begun to appear (Brimson, 1991; Brimson & Antos, 1994; DeHayes & Lovrinic, 1994; Lewis, 1993; Zemsky & Massy, 1990).

Familiar with traditional accounting approaches, social work deans and directors have long understood the income side of the economic equation, including tuition and fees, governmental appropriations, extramural grants, and the like. They are well aware that when the books are closed at the end of the fiscal year, income is

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supposed to offset expenditures. However, when it comes to the activities and processes undertaken within school programs, many deans and directors may not be especially well prepared to respond to the expectations for increased fiscal accountability.¹ Although balanced budgets continue to be necessary, they are, of course, insufficient to meet the accountability and planning demands of modern academia (Elliott, 1998). Contemporary social work deans and directors are challenged to do much more than merely provide "balanced books."

Demands for improved accountability have come from forces both within and outside academia. Despite heightened interest regarding the costs of public higher education, governmental appropriations alone remain inadequate. Competition for the most highly qualified students has increased even as the sources of external support for the recruitment and retention of such students has decreased. Tuition costs and student fees continue to escalate dramatically. Parents, governmental officials, and other stakeholders increasingly question whether public higher education warrants these higher costs.

The very nature of higher education itself is in transition. As advances in technology occur at what seems to be an exponential rate, administrators are faced with dual problems: (1) paying for each new generation of equipment and related software, and (2) determining how the technological revolution can best serve the purposes of social work education without draining operating costs. While such changes may dramatically affect how faculty and students engage in the educational process, the long-term financial and curricular implications remain unclear.

Effective leaders provide focus for the future through visions, goals, and strategies. More and more, academic administrators are expected to identify, meet, and even exceed high level goals in a cost-effective manner. They are also expected to not only provide sufficient revenue to meet these goals, but sometimes to surpass revenue expectations. Furthermore, they are expected to respond quickly and efficiently when opportunities arise or when diminished resources necessitate programmatic changes. However, deans and directors may lack adequate information regarding the total cost of current or potential activities undertaken in pursuit of organizational goals. In order to meet these increasing demands, schools and departments of social work must be able to examine their costs and activities in ways that will enable them to make informed and timely decisions regarding allocating the most effective and efficient available resources (Martin, 1994). Economic modeling is an effective framework for addressing these issues.

THE ECONOMIC MODEL

The economic model presented in this paper is designed to assist social work administrators understand the current internal operations of their academic programs as well as help them focus toward the future through projections and forecasts. This proposed strategy is an extension of a similar model developed and adapted for use in a university setting (Johnson, 1999; Lovrinic, DeHayes & Althoff, 1993). Economic modeling provides a logical framework for analyzing the costs associated with activities undertaken in pursuit of program goals. Application of the economic model allows administrators to examine the full spectrum of organizational efforts typically associated with the delivery of social work education. Faculty

activity costs such as teaching, research, and service may be determined for the school as a whole or in relation to specific cost centers (e.g., academic programs, advising, student services). This model enables administrators to identify the individual and aggregate costs associated with each activity. As a versatile planning tool, economic modeling leads to identifying “cost drivers” (Lewis, 1993)—those factors that actually cause real costs to occur in relation to designated programmatic initiatives.

Essentially then, schools and departments of social work may use economic modeling to determine the costs associated with their processes and activities. As a form of activity-based accounting, the economic model is designed for implementation through modern computer spreadsheet software. Social work programs that adopt an economic modeling strategy may find it a valuable planning tool that enables them to:

1. Determine the costs associated with delivering academic programs and other cost centers.
2. Assess the current and long-term fiscal implications of current and projected (“what if”) personnel distribution and organizational schemes.
3. Assess the organizational investment in general processes such as teaching, research, and service as well as more specific activities such as field liaison, advising, and administration.
4. Augment overall organizational evaluation efforts by providing a framework within which to determine the relative costs of alternative programming.
5. Contribute to the fiscal side of the strategic planning process, including resource allocation decisions and potential revenue sources.

In essence, economic modeling results in an accounting system that can determine the costs associated with current and projected educational program delivery and trace those costs to specific personnel activities and cost centers. Thus, using economic modeling offers the advantage of addressing current accountability issues as well as forecasting future possibilities of involvement for the school or department. The economic model, as applied in a school of social work, is constructed around a flexible set of user-determined modules (i.e., electronic worksheets). Individual social work programs may readily develop, adapt, or revise the parameters of modules in order to address idiosyncratic or changing circumstances, needs, and goals.

COMPONENTS OF THE ECONOMIC MODEL

Several essential prerequisites to effective economic modeling exist within the context of social work education. First, each school or department must have access to accurate financial accounting data, especially information about revenues and expenditures. Second, the program must identify and classify the range of processes and personnel activities that collectively comprise the program. Third, the program must specify “cost centers” that logically encompass the processes and activities. Fourth, the program must determine a measurement system from which to assess quality or productivity. Fifth, the program requires some methodology for determining the distribution of personnel effort across various cost centers. Some sys-

tems follow “workload policies” that may aid in this process. Finally, the program requires access to and the ability to use modern computer spreadsheet software.

Access to Financial Accounting Data

Accurate accounting information concerning the sources of revenue and the institutionally defined expense categories associated with the program represent the essential foundation for any economic model. Without this information, the process becomes little more than a theoretical exercise. In most publicly supported educational systems, revenues are generated from five major sources: tuition and fees, governmental allocations, voluntary contributions and gifts, private and institutional endowments, and internal and external grants. The type and amount of income generated from any one of these sources will vary widely relative to the nature and mission of the educational institution.

On the cost or expenditure side of the ledger, monies are typically allocated to two major categories; each may contain any number of subcategories. The larger of the two categories contains all personnel-related expenses (including faculty, staff, work-study students, etc.). In school and department budgets, personnel costs (including fringe benefits) usually account for most of the expenditures. Therefore, the key to understanding business-related costs is learning how the people within the system spend their time and determine the outcomes of their efforts.

The second major category encompasses the wide array of direct and indirect costs associated with doing business (including, for example, equipment, supplies, travel, utilities, building maintenance, accreditation fees, and institutional taxes for library/technology services). While the bulk of the budget covers personnel costs, administrators generally have somewhat more freedom when allocating non-personnel discretionary funds.

The amount of fiscal information available to educational administrators generally depends on the organization, the culture, and the traditions of the institution in which the program is housed. At one end of a continuum program administrators are accorded full access to all financial information. Open systems of this type are usually more conducive to the planning process. They tend to encourage collaboration and reduce suspicion among important stakeholders.

At the other end of the continuum are those program administrators who, whether by design or by choice, have limited access to pertinent budgetary information. In systems such as these, program administrators (e.g., deans, directors, coordinators) may need to educate their superiors (e.g., presidents, chancellors, deans) about the potential value and utility of economic modeling and the need for access to financial data. Such data is essential for creating a viable economic planning model.

Program Processes and Personnel Activities

Revenues make possible the various processes and activities necessary to realize programmatic goals. Administrators know this but rarely take the time to identify and classify specific processes and activities for which revenues are allocated. Nor do they define the financial and qualitative milestones necessary for programmatic

success. In order to identify, then classify the essential activities undertaken within the system, administrators must determine how the key actors spend their time. People (i.e., faculty, administrators, and staff) carry out the activities and implement the processes deemed necessary for the realization of organizational goals.

The section's title refers to "processes" and "activities." These terms are similar but not synonymous. Activities refer to fairly specific tasks or circumscribed functions assigned to or expected of a particular person. They tend to be more concrete and time limited. Processes imply a sequence of activities that generally involve a number of related steps or operations and often require more than one person for completion. Processes tend to be somewhat more abstract. However, both activities and processes should be identified and accounted for in the economic planning process.

At the most general level, educators are typically expected to engage in activities involving varying degrees of teaching, research, and service. These general activities may be subdivided, as appropriate. For example, the teaching category might include a range of instructional modalities, such as classroom teaching, field instruction, individual tutoring, or other forms of independent study or mentoring. In more complex systems, these subdivisions might be further categorized in relation to any additional factors that make organizational sense. For example, classroom courses might be specified according to academic program level, curriculum area, or simply by title and number. Activities related to research and service may be similarly classified and sub-classified based on the particular interests and needs of the organization. The nature of the organizational unit and the scope of the organizational issues drive the elements of the classification scheme as well as the level of specificity.

Deans and directors are well aware that in an economic sense some activities are potentially "resource enhancing" (e.g., teaching, funded research, and fundraising), while others tend to be "resource depleting" (e.g., advising, committee work, and community service). While all activities may be considered essential to the ultimate success of the program, in the final analysis, the economic goal is to assure a balanced budget where the deficits generated by the latter are offset by the income produced by the former. A well-designed economic model can greatly enhance an organization's capacity to discover ways and means to achieve that goal.

Cost Centers

A "cost center" may be defined as any cluster of focused activities for which the organization has identified a set of programmatic goals (Trussel & Bitner, 1996). Once the relevant activities and processes have been identified and classified by type, they may be organized in relation to appropriate cost centers. The actual number of cost centers vary widely depending on the size and complexity of the organization.

Typically, cost centers are associated with programs, projects, or offices with designated leaders and possibly some administrative overhead. Each educational program (B.S.W., M.S.W., Ph.D., and continuing education) would commonly be identified as a cost center, as might clusters of activities that cut across the major

program areas (e.g., enrollment services, general administration, field instruction, student services, and collaborative research initiatives). Within a cost center entitled “Enrollment Services” for example, one might find activities such as admissions, financial aid, registration, and student accounts. The key to forming a cost center is that the activities housed within it have some logical basis for being grouped together. Those activities, when viewed in the aggregate, share some common organizational mandate. Ideally, there is also a designated person (i.e., a “process owner”) within the system who ensures that the purposes for which the cost center was created are met.

Measurement System

The organization assesses the quality or productivity within a cost center by means of a measurement system. Typically, the “unit of measure” varies according to the nature and purpose of the program or activity. For example, an academic program might track the number of graduates, retention rate, proportion of honor students, or the number of credit hours generated. A research center might track the number of grants submitted, the percentage approved, and the amount of external grant money received each year. A field department might track the number and kind of practicum settings arranged and the number of students placed. A school or department might track the number of articles and books published, honors received, and the nature and amount of community or professional service contributed by its faculty.

Distribution of Effort

Organizations need some means to determine how personnel expend their time and effort across various cost centers. Some educational programs have a workload policy or formula that provides a general calculus for the organization of individual effort. Formulas of this type are usually determined at the institutional level, and as such, provide only general parameters for how the major components of an individual’s workload are to be distributed—typically in relation to teaching, research, and service. While most general workload formulas are flexible enough to accommodate individual differences in roles and responsibilities, all are based on the assumption that everyone makes a commensurate effort. For example, a particular professor who serves as a field liaison to twice as many practicum students as prescribed by the workload policy might teach one less classroom course than normally expected.

Despite their shortcomings, even crude workload policies may be useful in applying the economic model. At the very least, they provide general guidelines for distributing valued activities among faculty and serve as a basis for making comparisons between the ideal and the actual labor distribution. Even if the program has no workload policy, an economic model can provide information that may assist faculty and administrators frame the dialogue related to those activities that should be recognized and rewarded within the system.

Modern Spreadsheet Software

The final prerequisite for implementing a reliable cost accounting system based on economic modeling involves a more practical, but no less important consider-

ation. Organizations interested in creating an economic model must have access to and competency in using modern spreadsheet software (e.g., Microsoft Excel™, Quattro Pro™, or Lotus 1-2-3™). Although it might be theoretically possible to conduct economic modeling by hand, it would be impractical and inefficient to do in this era of diminishing resources. Without modern spreadsheet software, sophisticated, economic modeling would be extremely costly, time consuming, and raise serious reliability questions.

Spreadsheet software provides the means to create, track, and analyze all relevant information. Once the data has been entered, administrators may modify any of the allocation algorithm components (such as time, effort, number of personnel, etc.) and assess the fiscal impact. As such, the software provides a useful vehicle for exploring a variety of hypothetical or “what if” scenarios, including for example, the economic impact of adding employees, increasing the number of course sections, or reducing class size.

ECONOMIC MODELING IN A SCHOOL OF SOCIAL WORK

Indiana University is a publicly supported institution in the United States that has offered social work courses since the early 1900s. Over the years the School of Social Work has grown in size and complexity to where it currently offers a full continuum of education, from the Baccalaureate to the Master’s, to the Ph.D. in Social Work degrees.

Several years ago Indiana University adopted “Responsibility Centered Management” (RCM) as an overarching approach (West, Seidita, DiMattia, & Whalen, 1997). Under RCM, each responsibility center (e.g., campus, school, division, or department) has considerable fiscal autonomy. As a responsibility center, each school is required to contribute to the costs associated with campus and university administration and general services. Except for these “taxes,” each responsibility center may allocate its remaining resources as it sees fit, as long as it demonstrates fiscal accountability in the form of a “balanced budget,” shows progress towards achieving of its mission and goals, and operates within the university’s broad guidelines. Prior to RCM, deans and directors had relatively limited fiscal autonomy in the area of expenditures. For example, to employ an additional tenure track faculty member, deans were required to seek approval from university administration. When one or more faculty positions remained unfilled, the school could not autonomously reallocate those funds for other purposes (e.g., supplies, equipment, student stipends, or part-time faculty). Unless such reallocations were authorized, unexpended monies automatically reverted back to the university’s general fund. With the help of RCM, deans and directors now have authority to design their own staffing patterns—provided they stay within their budgets and university policies. They can now exercise greater budgetary autonomy, flexibility, and control. However, they also carry far greater responsibility. Deans and directors are held increasingly accountable for fiscal mistakes within their respective responsibility centers.

In order to exercise this greater autonomy, deans, directors, and other school administrators require analytic tools to facilitate planning and decision-making while maintaining the fiscal health of the organization. Economic modeling represents one such tool.

Implementation of Economic Modeling: An Illustrative Example

To implement economic modeling at the Indiana University School of Social Work, the authors took several steps:

Step One: Formulating Economic Questions

Economic models are essentially value free. They do not determine what economic questions or issues should be addressed, nor do they relate what options should be accepted. They provide some of the data needed to make informed decisions, but they cannot and should not be used as the exclusive or primary means for decision-making. Some administrative decisions may be necessary or functional but make no sense in strictly “economic” terms. Academic administrators also incorporate certain values and principles in their decision-making processes—including identifying those issues and concerns for which economic answers are needed. Formulating economic questions represents the first step in the process.

The specific issues and concerns that drive efforts at economic modeling vary from program to program, depending upon local conditions and the culture of the institution. For example, some social work programs are freestanding schools or departments, and as such, they exercise considerable autonomy over their own academic and fiscal affairs. Others are housed within larger academic units. Faculty and resources may be shared, and fiscal decisions may be justified on the basis of factors that transcend any given discipline or profession within the unit. Institutions also differ with respect to the relative importance of teaching, research, and service to the overall mission of the institution. Non-economic factors such as these are considered in determining what questions to address through economic modeling.

Step Two: Defining Cost Centers

Once the critical issues have been identified and the economic questions formulated, the most pertinent cost centers are defined. As noted earlier, a “cost center” may be defined as any cluster of focused activities for which the organization has or may have identified a set of programmatic goals. Given the nature of social work education, it is not always an easy task to define mutually exclusive or distinct cost centers. Social work faculty members engage in many activities that do not neatly fit into a single cost center. For example, functions, such as academic advising and serving as field liaison, may be viewed as properly falling within the teaching domain in one school, while it falls within the service domain at another. For tracking purposes, the responsible administrator ultimately determines where activities and processes should be housed. Indeed, sometimes the activities assigned to one cost center overlap with a second cost center. One of the most useful aspects of economic modeling, however, is that activities assigned to one cost center can easily be reassigned to another if or when the rationale for their initial selection changes.

Step Three: Obtaining Financial Information

As a critical step in the implementation of the activity-based economic model, administrators must obtain detailed financial information related to sources and types of revenue and expenditures. In the case of the Indiana University School of

Social Work, the largest single source of revenue is derived from student tuition, with state appropriations the next most significant income source. The largest single expense occurs in the form of faculty salaries and benefits. Under RCM, the school receives almost all the tuition income generated from students' enrollment in social work courses. Although external grants and contracts comprise significant dollar amounts, their combined proportion of the total income is relatively small. Therefore, for illustrative purposes, the authors focused on tuition income and personnel expenses as the primary economic factors within this model.

Step Four: Securing Additional Relevant Information

Next, the authors secured access to the university registrar's database. This enabled the authors to readily determine the precise number of enrolled students in each section, each term, and each year for all the social work courses offered. The names of the social work instructors were also indicated. The authors then linked and imported the data into a Microsoft Excel™ workbook. Almost all students pay the same "in-state" tuition; therefore, once sectional enrollments were in spreadsheet format, the authors could easily calculate the amount of "section income" generated by simply multiplying the number of students enrolled (or credit hours taught) in a course section times the tuition paid by each student.

They then obtained the computerized records of the university fiscal officer and obtained spreadsheet data regarding the name, rank, and salary of all full and part-time social work faculty and staff members. The authors then imported that information into their own spreadsheet workbook for use as the fundamental data within their economic model. This enabled them to allocate personnel costs to various cost centers.

Step Five: Organizing Data

The authors then edited the spreadsheets they had imported so that they could easily identify pertinent information about all social work classroom and field practicum courses. They summarized the data by course number, course title, academic program, total credit hours instructed, enrollment, and the tuition income generated by each social work course. A spreadsheet containing the salaries of all full-time faculty was prepared and another containing the salaries of part-time faculty. Since part-time faculty members are paid on a "per course" basis, the authors could readily assign those costs to specific courses. Determining the "cost" of a full-time faculty member to teach a course was more challenging since cost is based on the portion of the faculty member's full-time effort.

Step Six: Determining and Allocating Costs

Several approaches were considered in determining the aggregate-per-course costs. The authors could, for example, ask professors to indicate how much time was spent preparing for and teaching their courses. If the authors could specify the amount of faculty effort, the cost per course could readily be calculated. They attempted this approach and encountered several problems. Only about 50% of the full-time instructors responded to a faculty effort survey about how they spent their time. And those instructors who responded reported widely differing amounts of faculty effort (in terms of hours or percentage of time) spent in prepar-

ing for and teaching their courses. The authors quickly realized that self-reports of faculty effort raised questions about the validity and reliability of the economic model cost data. Therefore, they adopted a more or less standardized “faculty effort” formula based upon a “Capacity Model” developed by the College of Arts and Sciences at Indiana University (Bloomington campus). This capacity model is a fairly simple means of determining the aggregate work capacity of an academic department or school based upon the total number of “course sections” that might be taught if all faculty taught a predetermined maximum number of courses. That number (i.e., total teaching capacity) may be used as a basis for determining the percentage of capacity realized (i.e., the number of course sections actually taught divided by the number of course sections that could ideally be taught if all faculty were to teach a maximum load). Suppose, for example, that a department has five full-time faculty members—each with a capacity to teach eight courses per academic year. The total full-time faculty teaching capacity would then be 40 course sections. The department also employs two part-time faculty members—each with a capacity to teach one course per semester (two courses per academic year). Their capacity would be four course sections. The department’s total teaching capacity then is 44 course sections. If the department delivers 40 course sections each academic year, it would be operating at nearly 91% of capacity—one indicator of efficiency.

The capacity model articulates with the faculty workload policy of the School of Social Work. Under this policy, each full-time instructor at the School is assumed to have the “capacity” to teach eight three-credit classroom courses per academic year. Each three-credit course section is then valued at 12.5% of the instructor’s capacity. An instructor who teaches eight courses during an academic year would operate at 100% capacity. However, in addition to teaching courses, social work educators are also expected to conduct research and perform service (e.g., to the university, the school, the community, and the profession). Therefore, faculty receive two “course section equivalents” (25%) for those activities. In addition, since full-time instructors also serve as advisors to about 25 students each year, and as field liaisons to another 13-15 students each semester, the school also grants a course section equivalent (12.5%) for those duties. As a result, most full-time social work instructors on the campus teach five three-credit classroom courses per academic year. They are also expected to fulfill advising and field instruction responsibilities, conduct research, and provide service equivalent to that required in the instruction of three three-credit hour courses. Instructors who complete all of these activities during an academic year are viewed as expending 100% effort and functioning at 100% of their individual capacity. Of course, this general expectation does not apply to all instructors in exactly the same way. Some instructors advise more students but teach fewer classroom courses. Others teach more courses while serving as field liaison to fewer students. And, some instructors assume higher levels of school service responsibilities or engage in more research but do less of something else.

The School’s capacity formula—eight course sections per year—serves as a basic workload expectation for all full-time social work faculty members. Therefore, the authors decided to adopt the same formula for their economic model. They allo-

cated 12.5% total annual faculty effort for each three-credit course taught regardless of course level, number of students, or number of preparations; 6.25% for advising and 6.25% for field liaison; 12.5% for research; and 12.5% for service activities. This basic formula could be applied to almost all full-time faculty members. However, some adjustment was required for those with substantial administrative service responsibilities.

Step Seven: Activity Based Economic Analysis

Equipped with some understanding of school finances, information about the total number of credit hours instructed per course, the income generated by those courses, and the estimated percentage of faculty effort expended in their delivery, the authors proceeded to identify and describe key processes and activities reflected throughout the School's operations. They built upon the allocations of faculty effort related to teaching, field liaison, and advising. They further classified faculty activities within other cost centers, such as student services and administration.

Although they identified numerous cost centers, they focused on the academic programs, field practicum, and student advising for the remainder of this example. The academic programs served as readily accessible cost centers. Spreadsheet pages were created for each program and linked to the pages containing information about tuition income generated by each course section and to those referencing personnel expenses (i.e., instructor salaries, and benefits). Because they had classified the percentage of teaching effort (12.5%) by course number (e.g., SW100, SW520, SW720), the authors could easily compare total course costs with the associated income for each program. Their courses were numbered so that SW100-SW499 referred to baccalaureate social work courses, SW500-SW699 to MSW, and SW700-SW899 to Ph.D. level courses. Indeed, they could determine the net income or loss for each course individually, for each level, program, and for the School as a whole. They had classified the percentage of field liaison effort (6.25%) within the field department cost center by field practicum course number. This enabled the authors to compare tuition income generated by field practicum courses with the costs associated with field liaison activities. Because the practicum courses were also numbered, they could readily allocate field department costs to the BSW and MSW programs.

Similarly, the authors classified the percentage of advising effort (6.25%) by student level. Most faculty members were assigned groups of students from discrete cohorts (e.g., BSW sophomores, BSW juniors, BSW seniors, MSW-I full-time, MSW-I part-time, or MSW-II). This enabled them to associate advising costs with academic programs. Students do not directly "pay" for advising services. Therefore, the authors assigned the costs of advising to the relevant programmatic cost centers (i.e., BSW, MSW, and Ph.D.) using faculty effort as a cost driver to allocate those costs.

Although full and part-time instructors teach across all levels and in all academic programs, the modern computerized spreadsheet software enabled the authors to examine the distribution of instructional costs associated with each course, each program, and all other cost centers. They also used the spreadsheet technology to undertake various ad hoc analyses. For example, they wondered about the finan-

cial implications of employing Master's level, non-tenure track instructors exclusively for non-revenue producing advising and other student services activities. This would relieve higher salaried senior Ph.D. level faculty from routine academic advising and allow their reassignment to income producing, teaching, and funded research activities. They could then use the economic model to compare the financial implications of a current situation versus a "what if" scenario.

For example, suppose a program currently employs six tenured faculty members at an average annual salary and benefit package of \$52,500 (see Table 1). Each instructor teaches five classroom courses per academic year. At 12.5% annual faculty effort per course, each instructor expends 62.5% of her or his annual effort in classroom teaching. Each also expends 6.25% conducting faculty field liaison; 6.25% advising students; 12.5% in various forms of school, university, community, and professional service; and 12.5% engaging in minimally funded research and scholarship activities. However, the program offers 36 courses per year. Therefore, six part-time instructors are hired to teach one course per year.

Under the proposed scenario (Table 2), a Master's level professional is hired at \$35,000 per year to undertake the field liaison and advising functions that the six tenured and tenure-track faculty members had previously completed. Under workload policy guidelines, those duties should require 75% of the newly employed faculty member's effort (six times 12.5%). However, the authors decided to calculate it at 100% effort in order to ensure that sufficient time and energy were available to do the job well. Meanwhile, the six tenured and tenure-track faculty members are relieved of their field liaison and advising responsibilities, but each

Table 1: *Current Situation Where Tenured Faculty Teach Five Classroom Courses, Conduct Scholarship, Provide Service, and Engage in Field Liaison and Advising*

Six Faculty Members @ \$52,500 per Annum	Annual % Effort per Faculty Member	Aggregated Annual % Effort	Direct Cost	Direct Income (without government appropriations)
Five course sections	62.50	375.00	\$196,875	\$283,200
Faculty field liaison	6.25	37.50	19,688	26,568
Scholarship	12.50	75.00	39,375	24,000
Service	12.50	75.00	39,375	
Student advising	6.25	37.50	19,688	
Subtotals	100.00	600.00	\$315,000	\$333,728
Six part-time instructors @ \$3,000 per course		75.00	18,000	24,200
Totals		675.00	\$333,000	\$357,928
Net Income				\$24,928

Table 2: *Proposed Scenario Where a Master's Level Professional Engages Primarily in Field Liaison and Academic Advising Activities*

Six Faculty Members @ \$52,500 per Annum plus One Master's Level Professional @ \$35,000	Annual % Effort per Tenured Faculty Member	Aggregated Annual % Effort	Direct Cost	Direct Income (without state appropriations)
Six course sections	75.00	45000	\$236,250	\$317,400
Faculty field liaison performed by \$35,000 salaried non-tenure tracked faculty at 50% effort		50.00	17,500	26,568
Scholarship	12.50	75.00	39,375	24,000
Service	12.50	75.00	39,375	
Student advising performed by \$35,000 salaried non-tenure tracked faculty at 50% effort		50.00	17,500	
Subtotals	100.00	700.00	\$350,000	\$367,928
Less 6 part-time instructors		(75.00)	(18,000)	
Totals		625.00	\$332,000	\$367,928
Net Income				\$35,928

teaches one additional classroom course section per year (six instead of five) since the tasks associated with student advising and faculty field liaison have been removed. They continue to provide the same 12.5% effort in service and 12.5% in research and scholarship. Since the newly employed Master's level professional performs exclusively in the student advising and field liaison arenas, and the tenured and tenure-track faculty teach additional courses, six fewer part-time instructors are required. This yields an increased net income of \$11,000 (from \$24,928 to \$35,928) to the school. In addition to the considerable cost savings, the authors might also anticipate overall improved quality and consistency of the advising and field liaison activities due to the specialized, focused nature of the non-tenure track professional role.

This simple example illustrates the potential utility of economic modeling. It could prove useful in many scenarios. A school or department may decide to add

a course to their curriculum but wonder whether it should be offered in a traditional classroom-based format or via the Internet in an on-line fashion. This economic model may help assess the financial implications of each course format.

Continuing education (CE) is also a major area of concern for many schools of social work. Administrators often wonder how the school can develop and subsidize their CE initiatives. Economic modeling represents a tool for planning and forecasting the financial resources needed for a successful continuing education program. Similarly, as schools and departments of social work increasingly seek additional external funding through research grants and service contracts, economic modeling may be used as part of the decision-making process concerning the redistribution of faculty effort or the employment of additional staff. The possible uses of economic modeling in social work education are numerous and varied.

SUMMARY

Administrators in social work educational programs may find economic modeling a useful addition to their accounting, decision-making, and planning strategies. Even in institutions that have not yet adopted RCM, the expectations for greater programmatic responsibility and accountability suggest, at least implicitly, increased autonomy and much greater need for better data upon which to base programmatic decisions. As suggested by Jonas and his colleagues, "...colleges and universities now have much greater freedom—financially and technically—to reinvent their financial practices" (Jonas et al., 1996). Economic modeling enables administrators to monitor the financial well being of their academic programs and conduct analyses that aid in planning and framing the discussion for decision-making. Such modeling can contribute greatly to improved organizational effectiveness and efficiency. However, the development and application of economic models do not take place in an ethical and political vacuum. We can be sure that they will not always tell us what we want to hear. However, they can be effectively used to provide data to guide and develop alternative approaches for resource allocation.

In summary, economic modeling represents a valuable tool for academic administrators who increasingly must consider finances within the context of planning and decision-making. To be successful, however, attempts to implement economic modeling depend in large part on the degree of support provided by top administration and the level of participation of those most directly affected by its implementation. Therefore, if at all possible, developing an economic model should be considered a participatory experience. The architects of any economic model within the academy must realize that they are engaged in an inherently political process that can have profound and lasting consequences on both the program and its participants. Every effort should be made to solicit the involvement and input of interested stakeholders at every stage in the development process.

Endnotes

¹The term "program" is used in various ways throughout this article. In some contexts, the term is used to refer to the entire organization (e.g., a school, college, or department of Social Work). In others, "program" references a particular academic

endeavor within the organization (e.g., an undergraduate program, a doctoral program, or a continuing education program).

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